

CLAIMS

I claim:

1 1. A method comprising:
2 packetizing data framed as an inbound Time Division Multiplexing (TDM) stream
3 as an Ethernet packet having a header which includes information which indicates an
4 appropriate time at which to write the data into an outbound TDM stream.

1 2. The method of Claim 1 wherein packetizing includes:
2 writing a TDM frame into a first field of an Ethernet frame; and
3 writing information which indicates an appropriate time to insert the data into an
4 outbound TDM stream into a second field of an Ethernet frame.

1 3. The method of Claim 1 wherein packetizing includes:
2 writing the inbound TDM stream to a first buffer; and
3 writing the inbound TDM stream to a second buffer while at least one TDM frame
4 stored in the first buffer is written into the Ethernet packet.

1 4. A method comprising:
2 accepting a first TDM stream into a switch having an Ethernet backplane, the first
3 TDM stream including a plurality of TDM frames;
4 writing a TDM frame into an Ethernet frame;
5 sending the Ethernet frame to a destination of the TDM frame;
6 extracting the TDM frame from the Ethernet frame; and
7 sending a second TDM stream, including the TDM frame, from the switch.

1 5. The method of Claim 4 wherein multiple TDM frames are written into the
2 Ethernet frame and the TDM frames are extracted from the Ethernet frame after sending
3 the Ethernet frame to the destination of the TDM frame.

1 6. The method of Claim 4 further comprising:
2 writing the first TDM stream to a first buffer; and
3 writing the first TDM stream to a second buffer while at least one TDM frame
4 stored in the first buffer is written into the Ethernet frame.

1 7. The method of Claim 4 further comprising:
2 writing at least one of the extracted TDM frames to a first buffer; and
3 writing at least one of the extracted TDM frames to a second buffer while at least
4 one of the extracted TDM frames stored in the first buffer is included in the second TDM
5 stream.

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1 8. The method of Claim 4 further comprising:
2 writing information which identifies the TDM frame into the Ethernet frame; and
3 writing information which signifies the destination of the TDM frame into the
4 Ethernet frame.

1 9. The method of Claim 8 wherein the TDM frame is written into a first field
2 in the Ethernet frame and the destination information and identifying information are
3 written into a second field in the Ethernet frame.

1 ~~10. A switch with an Ethernet backplane, comprising:~~
2 ~~a bus; and~~
3 ~~at least one line card connected to the bus, each line card including:~~
4 ~~circuitry to write TDM frames from an incoming TDM stream into Ethernet~~
5 ~~frames, circuitry to send the Ethernet frames to a destination of the TDM frames;~~
6 ~~circuitry to extract the TDM frames from the Ethernet frames once the Ethernet~~
7 ~~frames arrive at the destination of the TDM frames; and~~
8 ~~circuitry to send an outgoing TDM stream including the extracted TDM frames.~~

1 ¹⁰⁷ 11. The switch of Claim 10 wherein each line card further includes:
2 a first buffer and a second buffer to double buffer the incoming and outgoing TDM data.

1 12. The switch of Claim 10 wherein each line card further includes:
2 circuitry to write information which identifies the TDM frames into the Ethernet
3 frames, and
4 circuitry to write information which signifies the destination of the TDM frames
5 into the Ethernet frames.

1 13. The switch of Claim 12 wherein each line card further includes:
2 circuitry to write the TDM frames into a first field in the Ethernet frame, and
3 circuitry to write the destination information and identifying information into a
4 second field in the Ethernet frame.

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